IS METHANE TESTING A USEFUL ADJUNCT TO PREMATURE DISSOLUTION OF THE AGILE PATENCY DEVICE

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Introduction Hydrogen breath testing (BT) is a useful non-invasive test for diagnosing small intestinal bacterial overgrowth (SIBO) and carbohydrate maldigestion. In a proportion of patients methane is produced at the expense of hydrogen leading to false negative results. This retrospective study evaluated the diagnostic yield of methane testing in addition to hydrogen.

Methods Electronic records were interrogated for the results of all glucose and lactose BT performed for SIBO and lactose malabsorption respectively between 22/05/2015 and 03/01/2018 using the GastroCH 4ECK® machine, Bedfont® Scientific Ltd. Results During the study interval 569 patients (age range 16–86 y, 66% female) were referred for BT with glucose (48.5%) or lactose challenge (51.5%). Hydrogen and methane production was positive in 25.6% (71.4% female) and 47% (61.5% female) of patients undergoing glucose BT for SIBO. Two patients were hydrogen/methane co-producers. Hence 28.2% of patients with SIBO solely produced methane and would have been missed with only hydrogen assessment. Hydrogen and methane production was positive in 25.6% (80.0% female) and 5.1% (68% female) of patients undergoing lactose BT for lactose malabsorption respectively. Two patients were hydrogen/methane co-producers. 14.8% of patients with positive lactose BT only produced methane and would have been missed with hydrogen mono-testing.

Overall 18.9% of all patients with a positive BT (n=24, 75% female) were sole methane-producers that would have been misdiagnosed if hydrogen mono-testing was conducted.

Conclusions In this study we have demonstrated that combined hydrogen/methane BT helps optimise diagnosis in patients with suspected SIBO or lactose intolerance. An extra 28.2% of positive breath tests for patients with SIBO and 14.8% for lactose malabsorption were identified with the addition of methane to hydrogen testing. Interestingly the proportion of patients producing methane was higher in SIBO than lactose malabsorption. Compared with the overall study population, a greater proportion of males tested positive for methane on glucose challenge. In comparison a greater proportion of females were methane positive on lactose BT. Currently only the minority of centres offer methane testing and our results suggest that a significant number of patients with possible SIBO or lactose malabsorption may be missed. Methane BT should be considered particularly for male patients with suspected SIBO.

REFERENCES

PREMATURE DISSOLUTION OF THE AGILE PATENCY DEVICE

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Introduction Confirmed (visual) passage of an intact Agile (Medtronic Ltd) patency device (which contains a radiofrequency (RF) tag), absence of an RF signal or failure to identify the patency device on radiological imaging 30 hours post-ingestion predicts safe capsule endoscopy. [Hererrias et al., Gastrointest Endosc 2008] Premature dissolution of the device would give false reassurance that capsule endoscopy could be performed safely.

Methods Retrospective review of 2017 patency capsule database.

Results RF scan was performed on 490 patients 30 hours after swallowing an Agile patency device and, if an RF signal was present, patients went for a scout film and, where indicated, limited CT scan. Premature dissolution occurred in four cases (0.8%). All had normal colonoscopies and symptoms of Crohn’s disease (two of whom had abnormal, one normal and one no prior small bowel imaging). In two, the scout films were reported normal, but a persistent RF signal prompted re-examination of the films and the identification of the RF tags. In the two later cases, the RF tag alone or with adjacent high density material (consistent with barium) was recognised as demonstrating premature dissolution.

Abstract PWE-099 Figure 1

Conclusions This is the first report of premature dissolution of the Agile patency device which occurred in about 1:100 cases. If the RF signal remains 30 hours post ingestion, care
should be taken to look for the RF device on radiological imaging when the intact patency device (see figure 1) is not evident. The tags may be confused with surgical clips, IUCDs, metallic items of clothing and jewellery.

PWE-100 CHALLENGES IN ADHERING TO A GLUTEN FREE DIET IN DIFFERENT ETHNIC GROUPS

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Introduction The treatment for Coeliac Disease (CD) is a life-long strict gluten free diet (GFD) to prevent comorbidities. Patients refer to both social and practical challenges with adhering to a GFD (Lerner, 2010). There is very limited research exploring the challenges of a GFD in ethnic populations residing in the UK. This study aimed to determine if the challenges in dietary adherence to a GFD were similar for South Asian (SA) and White Ethnicity (WE) populations with CD.

Methods A combined cross sectional survey using validated questionnaire and CD adherence score (Leffler) and review of clinical and laboratory data was utilised. A score of 13 or less was used to determine the non-adherence (Mooney et al. 2014), 972 (histologically confirmed CD) patients (85% White, 86% Female) were approached through postal route. Semi-structured mixed qualitative and quantitative method telephonic interviews were conducted in 28 patients with CD not adhering to a GFD (SA=7, WE=21).

Results SA (13; 10–19, n=38) and WE patients (13; 10–19, n=375) with CD (13; 10–19, n=375); 52.2% and 52.6% respectively were categorised as adhering to a GFD.

<table>
<thead>
<tr>
<th></th>
<th>% responses in agreement with the statements</th>
<th>P value*</th>
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<tbody>
<tr>
<td>White ethnicity n=375</td>
<td>South Asians n=38</td>
<td></td>
</tr>
<tr>
<td>I don’t understand what foods I can eat</td>
<td>4.5</td>
<td>76.3</td>
</tr>
<tr>
<td>I don’t understand food labelling</td>
<td>3.9</td>
<td>52.6</td>
</tr>
<tr>
<td>Gluten free foods are unpleasant</td>
<td>57.0</td>
<td>81.6</td>
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* Chi squared

Abstract PWE-100 Table 1 Agreement with statements by South Asian and White ethnicity patients with coeliac disease

Interviews with patients not adhering to a GFD highlighted 54% of WE indicated motivation as a challenge compared with 33% of SA, whereas, 77% of SA indicated contamination as an issue compared with 4% of WE patients. Both SA and WE patients found eating out difficult (80% and 86% respectively), with the majority of each group indicating a lack of confidence in the knowledge of restaurant staff (85% and 66% respectively). 85% of SA patients with CD reported not finding GF foods in their local Asian stores.

Conclusions Our study highlights that there are substantial issues with the understanding of food labels that impact adherence to a GFD. Furthermore, the absence of GF foods in local Asian stores is likely to reduce adherence. More research is required to quantify the low availability of GF foods in local Asian stores.

PWE-101 CAPSULE ENDOSCOPY IN OCTOGENARIANS

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Introduction In 2014, our centre reported experience showing a high diagnostic yield (DY) of capsule endoscopy (CE) in octogenarians, although sinister lesions were rare and little change in management was made. Based on our subsequent experience, this study seeks to establish if this still holds true.

Methods A prospectively-maintained CE database of patients who underwent CE from 2005–2017 was interrogated for patients ≥80 years old. Data were extracted on CE indications, findings and outcomes. The capsule examination was considered to have DY if the findings accounted for the patient’s presentation.

Results 164 CE procedures were performed in 150 patients ≥80 years, mean age 84.1 years (range 80.0–96.2, 99F/65M). Indications for CE were iron deficiency anaemia (IDA) (82), obscure gastrointestinal bleeding (OGIB) (63), possible IBD (6), suspected malignancy/lymphoma (4) and others (10). 12 (8%) underwent more than 1 CE. 23 were excluded with incomplete data. 5 patients died of unrelated pathologies over the study period.

The overall DY of CE in this cohort was 75/141 (53.2%). The findings were: angioectasias (46), small bowel masses (10, including polyps and nodular bleeding lesions), portal hypertensive/NSAID/other enteropathies (9), small bowel inflammation (3), small bowel varices (2), GAVE (2), duodenal ulcer (1) and caecal bleeding (1). 59/141 (41.8%) patients had normal CE findings; another 7/141 (4.9%) had findings of unclear clinical significance.

Of the 10 (7.1%) patients with possible small bowel masses seen on CE, 5 were not followed up due to frailty and the presence of more likely causes of IDA/OGIB (e.g. significant gastritis). 2 underwent double-balloon enteroscopy with no lesion found. 1 patient was felt likely to have inflammatory bowel disease and treated. 1 patient had repeat CE with similar benign appearances and was discharged. Only 1 patient had a suspicious-looking obstructive and bleeding lesion; he returned to Australia and underwent follow-up there.

There were 7 patients ≥90 years old. All underwent CE for OGIB/IDA. 3 patients had angioectasias with active bleeding; 2 were treated with APC and one managed conservatively. 1 patient had small duodenal angioectasias of unclear significance. In 2 patients, the small bowel was normal but gastric ulcers/significant gastritis were deemed the likely cause of blood loss. There was 1 oesophageal retention with no further CE.

Conclusion In this age group, 90% (145/162) were referred with IDA/OGIB, with DY 53.2%. Angioectasias were the main significant findings. However, although a gastrointestinal source of blood loss was frequently found, there was rarely a change to management required, advisable or possible based on the CE result.

REFERENCES